
ANALYSIS AND EVALUATION OF SUCCESS RATE OF THE UNWE STUDENTS PARTICIPATING IN THE PROFILED VOLLEYBALL GROUPS

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Abstract: The learning process effectiveness is determined by checking and evaluating the results of pedagogical activity. Students' technical ability level and skills achieved in sport lessons are important, both for the students who receive an objective digital assessment - the equivalent of their success rate, and for the sports pedagogue who is required to adjust the curriculum content if needed. The purpose of our study is to analyze and evaluate the performance of students from profiled volleyball groups by determining the level of technical skills acquired at the beginning and at the end of the former volleyball training in three academic years (2017, 2018, 2019). The level of variability for the examined technical indicators is determined. We consider the average disposal of the variability of indicators as standard because of the diverse and complicated structure of volleyball movements, together with the fact that students results are calculated together, without considering their gender. The average success scores are calculated based on a normative table, prepared for the needs of the UNWE - Sofia. In conducting the experiment, a significant increase is registered (on average over half of a unit) for the "attack" indicator during the three school years, and lack of growth for the "Service" indicator. The students' assessment results of sports and technical skills during volleyball classes, and the lessons learned give us concrete guidance to adjust the curriculum and show the need of more specialized exercises to improve accuracy when using the serve. The approved and implemented system for control and assessment of students' technical skills optimizes the overall pedagogical process and helps for its effective management.

Keywords: volleyball, students, technical skills, success rate, evaluation

1. INTRODUCTION

The University of National and World Economy (UNWE) is the largest and oldest university of economics in Bulgaria and Southeastern Europe. It offers excellent sport facilities to students from all levels of study. Profile trainings are the main form of organization in sport classes. The main objective of the Physical Education and Sports course is to provide students with practical skills, based on the technical and tactical character, together with knowledge on the history, achievements and rules of the chosen discipline. The most important task in the technical preparation is the proper control of basic volleyball elements in the process of training, and their accurate and effective application during the game itself. Lazarova (Лазарова, 2014) considers the technical preparation as a complex process that aims far and near changes, creation and improvement of a highly efficient, stable and sparing movement system for the volleyball players. The control and assessment of the sport success rate in all stages of the education system is at great importance for optimizing the learning process. Stoilov (2017) focuses his attention on one of the basic questions in today's training process – the control and optimization of the whole sport process. He remarks that "Main target of the control in sport is to optimize the training and contesting process through impartial information of the effect of the applied training impacts on sportsman." According to Zlatareva & Georgiev (Златарева & Georgiev, 2017), "The evaluation characterizes the quality of the activity and its results, compared to the expected level, that should be reached at the end of the training". At the same time, Ivanov (Иванов, 2001) and Bozhkova (Божкова, 2008) stands out that increasing the efficiency of the learning process is possible when suitable models for comparison and evaluation of the studied objects exists. A comparative analysis of technical qualification of the students from UNWE has been conducted by Ivanov & Arsova & Bozhkova (Иванов & Арсова & Божкова, 2014). They recommend a higher proportion usage of ball control exercises in the learning process. Moreover, the technical and tactical attack skills should be improved in conditions that require more speed of movement. Specific studies in the field of working capacity and level of technical preparation of students, were made by Antonov & Lozanov (Антонов & Лозанов, 2006), Bozhkova (Божкова, 2008), Bozhkova & Arsova (Божкова & Арсова, 2008, 2011), Kolev (Колев, 2017) and Yordanov (Йорданов, 2017).

Till now, no comparative analysis examining the success rate of students, practicing volleyball in three consecutive academic years, has been made.

2. AIM AND TASKS

The purpose of the research is to track the level of learned technical skills for students playing volleyball, based on a normative table developed by Ivanov (Иванов, 2004), for the needs of UNWE - Sofia. To achieve this goal, we have set ourselves the below tasks:

1. Research for specialized literature on the problem;
2. Establish the variability level of the studied indicators;
3. Determine the level of technical skills mastered at the beginning and the end of one-year volleyball training;
4. Determine increase rate of the average student's achievement after the second test for each academic year in units;
5. Draw conclusions and recommendations on the level of technical success rate for future monitoring of the dynamics of the results.

3. ORGANIZATION AND METHODOLOGY

The study covers the period 2017/2019. Its subject is the 1st year students, who have chosen profiled weekly volleyball training for 90 minutes. The researched contingent is represented by 115 students for the academy year 2016/2017, 122 students for the academic year 2017/2018 and 110 students for the academic year 2018/2019. Subject of the study are controlling an examination standard for technical skills with a digital assessment at the beginning and at the end of the academic year. Three indicators were tested to determine the level of technical preparedness:

1. Attack following the direction of movement from zone №4, in straight line (three attempts) and diagonally (three attempts) - a total of six attempts;
2. Attack following the direction of movement from zone №2, in straight line (three attempts) and diagonally (three attempts) - a total of six attempts;
3. Upper face service for accuracy (three services in the left and three in the right half of the volleyball court - a total of six attempts).

Account of 18 success full attempts are reported. The estimation is formed based on the six-point system described in normative Table 1.

Table 1. Normative scoreboard for performance evaluation

Rate	Number of successful attempts
Excellent	from 16 to 18
Very Good	from 13 to 15
Good	from 9 to 12
Medium	from 5 to 8
Weak	from 0 to 4

4. RESULTS AND ANALYSIS

Figure 1 represents the variation coefficients of the aggregation in general. For indicators "Zone №4 Attack" ($V = 25\%$) and "Zone №2 Attack" ($V = 29\%$), the variation coefficients are significantly higher. That could be explained by the sophisticated technique of the rebound attack, which requires more precise coordination in time and space, together with correct and accurate ball attack. For this reason, we consider the sample as relatively homogeneous. The "Service" technical indicator is performed by static position. Its movement structure is more standard and stable, and with a variation coefficient of 18%, we assume that the sample is also homogeneous. The average variability dispersion of the technical indicators is considered standard due to the diverse and complex structure of the movements in the volleyball game, and since the students' results are calculated together, without taking into consideration their gender. This, in turn, provides a better opportunity to calculate the total cumulative technical skill, which is the subject of our study.

Figure 1. Variability of the technical indicators for the general aggregation

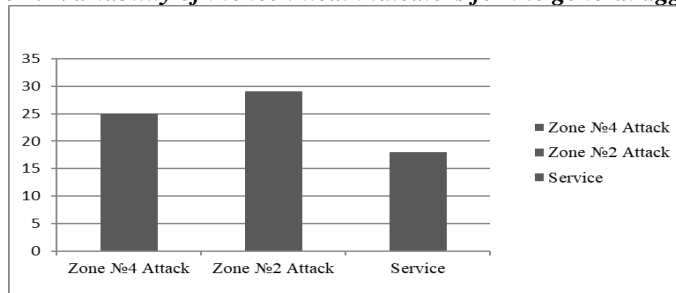


Table 2 indicates the initial and final assessment data for the level of technical skills of students from the specialized volleyball groups in three consecutive academic years. A success rate increase (R) is presented.

Table 2. Average values of technical achievements

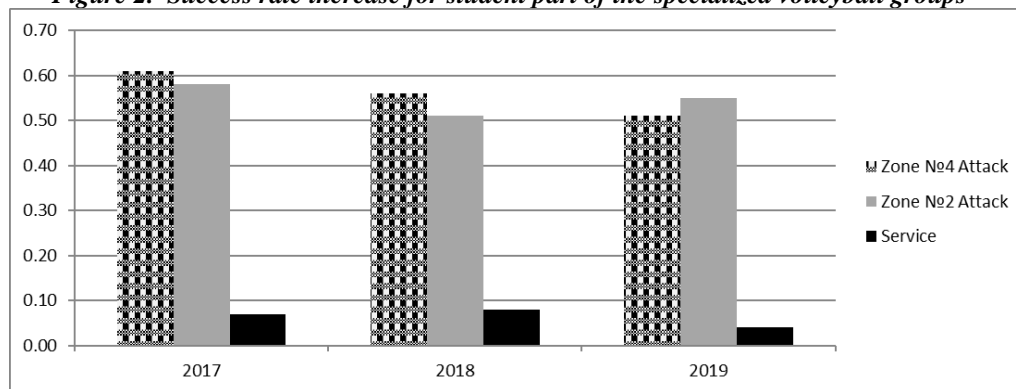
Indicator	Year	N	Initial Data	Final Data	R
			x1	x2	(x2-x1)
Zone №4 Attack	2017	115	4,76	5,37	+ 0,61
	2018	122	4,65	5,21	+0,56
	2019	110	4,81	5,32	+0,51
Zone №2 Attack	2017	115	4,44	5,02	+0,58
	2018	122	4,17	4,68	+0,51
	2019	110	4,31	4,86	+0,55
Service	2017	115	4,08	4,11	+0,07
	2018	122	3,94	4,02	+0,08
	2019	110	3,94	3,98	+0,04

For the first two indicators: "Zone №4 Attack" and "Zone №2 Attack", the studied object is attack by wrist, where the ball is directed with a technical stroke to certain zones of the playing court. The attack element is the one, where higher level of ball control is required for the most unstable position in which the player could be placed - the one in the air. The attack accuracy is an important technical and tactical weapon, which purpose is to make it as difficult as possible for the opponent to organize a counterattack, or even to lose the ability to organize such. The test results indirectly assess the level of ball control and movement technique in the accompanying actions prior to the final stroke, which are not a subject of our research. The final stroke accuracy for those two indicators shows that students have a good basic technique in the first test, with an average grade from 4.17 to 4.81. In the second test, the average grade of the technical success rate marks a positive increase for "Very Good" (from 4.68 to 5.37), which shows a stable and permanent improvement of this element.

The "Service" indicator is the starting element, and its strength, accuracy and variability determine the conditions for tactical advantage. For this indicator, initial data was registered with an average score of "Good", from 3.94 to 4.08. This indicates that the "Service" element reports gaps in mastering basic performing techniques since high school.

At the same time, it is of interest whether there is an increase in students' success rate after the end of the one-year volleyball trainings. That could be found out in the graph of Figure 2.

Figure 2. Success rate increase for student part of the specialized volleyball groups



The analysis of the results in Figure 2 allows us to determine stable and strong success rate levels in terms of the below indicators: "Zone №4 Attack" and "Zone №2 Attack". That outlines a good level mastery of the attack element in the direction of movement and developing technical skills through the learning process. At the end of the experiment through the three academic years, the "Service" element marks low levels of success and insignificant growth. The skills to direct the service in a specific zone are insufficient, and basic technique adjustments are required for purposeful work for improving the volleyball element.

5. CONCLUSIONS AND RECOMMENDATIONS

1. The results of the evaluation of students' sports and technical skills in the volleyball practice sessions, and the lessons learned, give us directions for corrections in the curriculum content;
2. There is a need for phases research and improvement of basic technique for upper face (standard) service;
3. The test results indicate a need for more specialized exercises for improving accuracy when performing the service;
4. The results and grades of initial test, drive students with good results to higher goals, while students with poor results are encouraged to put more efforts and attention into the learning process so that they could improve their underperformance;
5. The approbated and implemented system for control and evaluation of students' technical skills optimizes the overall pedagogical process and helps its effective management.

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